

## CLAIMS

What is claimed is:

- 5        1. A pump for anti-lock brake systems, comprising:  
a motor installed in a bore which is provided in a predetermined portion of a modulator block;  
a plug mounted to an end of the bore to be opposite to the motor;  
a piston provided in the bore to reciprocate in the bore by the motor; and  
10       a sleeve fitted into the bore to guide a reciprocating motion of the piston.
2. The pump according to claim 1, wherein the piston comprises:  
a low-pressure piston part provided at a predetermined position which is adjacent  
to the motor; and  
15       a high-pressure piston part extending from the low-pressure piston part toward the plug, with an inlet path provided between the low-pressure piston part and the high-pressure piston part, and along the high-pressure piston part.
3. The pump according to claim 2, wherein the sleeve has, around an outer  
20       circumferential surface thereof, a step, so that the sleeve is fitted into the plug in a press-fitting method while surrounding an outer circumferential surface of the high-pressure piston part, and is mounted in the bore along with the plug.
4. The pump according to claim 3, further comprising a stop flange which is  
25       provided at an end of the sleeve to be bent toward the high-pressure piston part.

5. The pump according to claim 3, further comprising a stop part which is provided at an end of the sleeve, the stop part being thinner than the sleeve to be bent toward the high-pressure piston part.

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6. The pump according to claim 3, wherein the low-pressure piston part has a smaller diameter than the high-pressure piston part.

7. The pump according to claim 3, further comprising an inlet check valve which  
10 is provided at an end of the high-pressure piston part, the inlet check valve and the piston being integrally assembled with the sleeve and mounted in the bore.

8. The pump according to claim 2, wherein the sleeve has, around an outer circumferential surface thereof, a step, so that the sleeve surrounds an outer  
15 circumferential surface of the lower-pressure piston part and an outer circumferential surface of the high-pressure piston part while being integrally fitted into the plug, and is mounted in the bore.

9. The pump according to claim 8, further comprising a stop flange which is  
20 provided at an end of the sleeve to be bent toward the low-pressure piston part.

10. The pump according to claim 8, further comprising an inlet hole which is provided on the sleeve at a position corresponding to an intermediate part between the low-pressure piston part and the high-pressure piston part, to communicate with the inlet  
25 path.

11. The pump according to claim 8, further comprising at least one groove which is provided around the outer circumferential surface of the sleeve so that a sealing member is fitted over the groove.

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12. The pump according to claim 8, wherein the low-pressure piston part has a smaller diameter than the high-pressure piston part.

13. The pump according to claim 8, wherein the low-pressure piston part and the high-pressure piston part are separately produced and are fitted into the sleeve.

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14. The pump according to claim 8, further comprising an inlet check valve which is provided at an end of the high-pressure piston part, the inlet check valve and the piston being integrally assembled with the sleeve and mounted in the bore.

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15. The pump according to claim 8, wherein the low-pressure piston part and the high-pressure piston part have a same outer diameter and are fitted into the sleeve having a linear inner circumferential surface.

16. The pump according to claim 15, further comprising an inlet hole which is provided on the sleeve at a position corresponding to an intermediate part between the low-pressure piston part and the high-pressure piston part, to communicate with the inlet path, with a portion around the inlet hole being grooved.

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17. The pump according to claim 15, further comprising a stop flange which is

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provided at an end of the sleeve to be bent toward the low-pressure piston part.

18. The pump according to claim 15, further comprising a stop ring which is fitted into a space between an end of the sleeve and the low-pressure piston part.

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19. The pump according to claim 15, further comprising an inlet check valve which is provided at an end of the high-pressure piston part, the inlet check valve and the piston being integrally assembled with the sleeve and mounted in the bore.